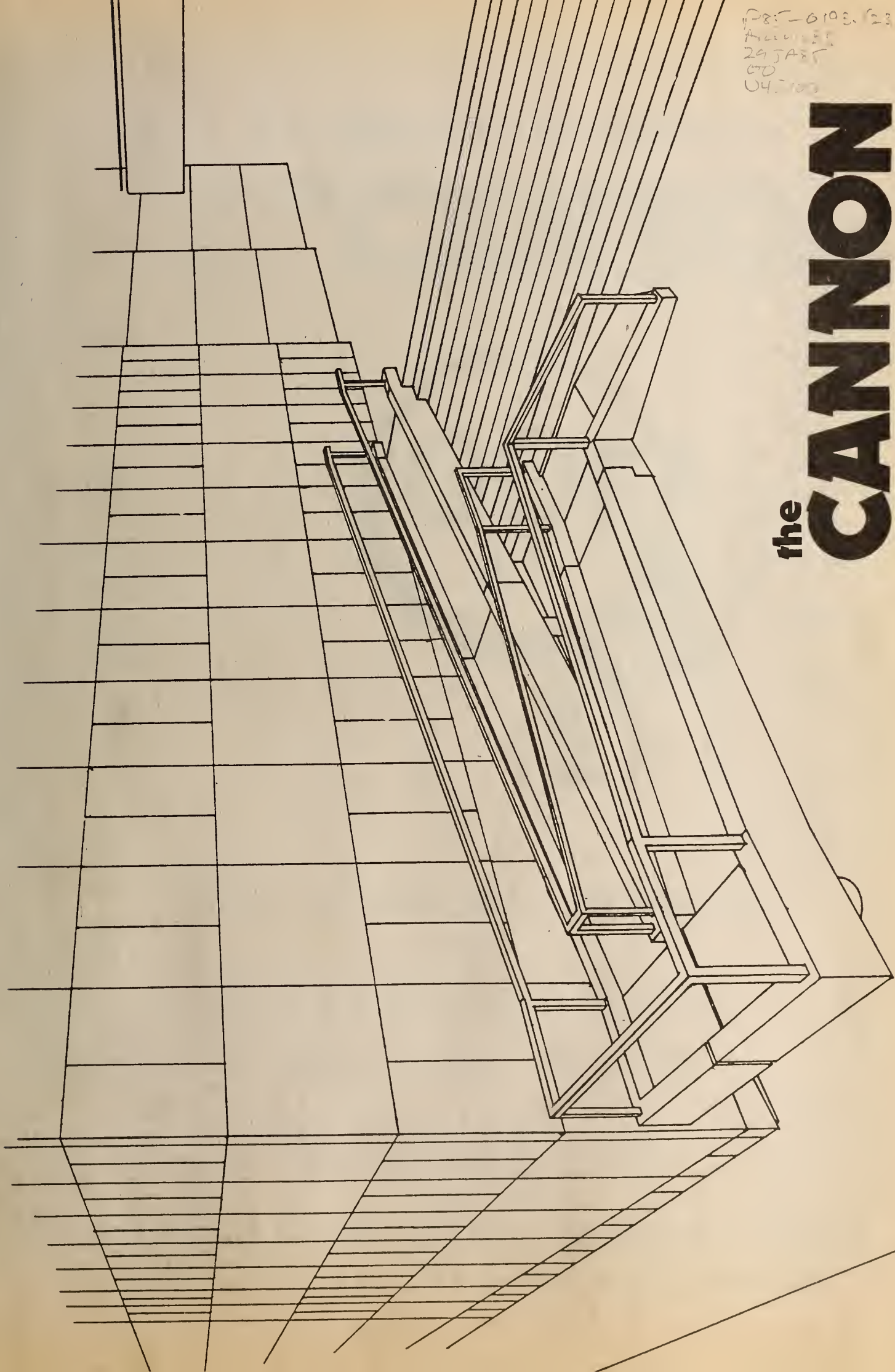


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the **CANNON**

Vol. VII, No. 5

The University of Toronto Engineering Society



THE ENGINEERING SOCIETY PRESENTS
CENTENNIAL CANNONBALL



SATURDAY, FEBRUARY 2, 1985

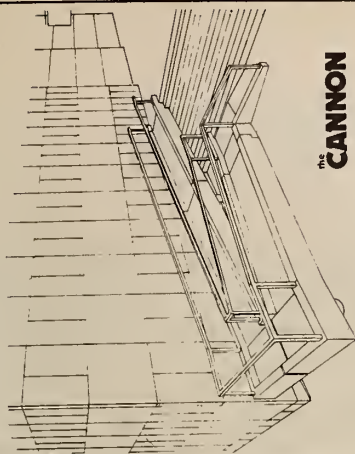
at the

HILTON HARBOUR CASTLE

RECEPTION - DINNER - DANCE

TICKETS: \$37/couple for APSC undergrads
\$52/couple for others

*ON SALE EVERYDAY OUTSIDE THE CAF (12-2pm)
OR FROM ELLA IN THE ENG. SOC. (SF B670)*



the CANNON

U of T Engineering Society

Vol. VII, No. 5

Editor

Derek Jubb

Photography

Nick Iozzo
John Rhyn

Helping the Handicapped

Inspired by the new Sandford Fleming Building, and believing we could do it better, your Eng Soc along with some 4th year Civils has designed a ramp for Med Sci. One of the designers talks about the design and the motivation.

page 8

Skule™ is a registered trademark of the University of Toronto Engineering Society.

The Cannon is a publication of the University of Toronto Engineering Society. It is published monthly to announce Eng Soc events, discuss faculty and university matters, and present technical information of interest to Engineering undergraduates. Subscriptions are available, call Ella at 978-2917. Anyone interested in helping with *the Cannon* is most welcome.

The Cannon encourages submissions; please type or print legibly. Deadline for articles and letters for the next issue is Monday January 28, 1985. Comments on *the Cannon* or articles appearing in it are appreciated. The editor reserves the right to edit for brevity. Not all opinions presented here are those of the Engineering Society.

ISSN 0711-4370

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Editor's Comments

This week we are hosting the 17th annual Congress of Canadian Engineering Students. The theme of the conference is "The Changing Role of the Engineer in Society." The focus is going to be how the engineer of tomorrow is going to fit into society. I wish for this editorial to pervert the theme slightly to read "The Role of the Engineer in Changing Society".

The faculty we are registered in is the Faculty of *Applied Science* and Engineering. The key words in the title I have italicized. To the purist that statement is virtually an oxymoron, after all isn't science only concerned with ideal constructs and situations, and society, for which the application is made, nearly totally imperfect? Well yes. What distinguishes us as engineers is that we can bridge that gap.

Making that bridge is as difficult as any physical bridge ever built, for we must not only know what the requirements are for the science to be transferred correctly, we must also know what society demands. The accident in

Bhopal is an example of the failure to correctly engineer a chemical reaction, whether or not it turns out to be human error at fault. Increasingly we are being held accountable for the actions we undertake. From environmental impact statements to human factors analysis, society is demanding we prove that we know what we are doing, and that it will benefit society.

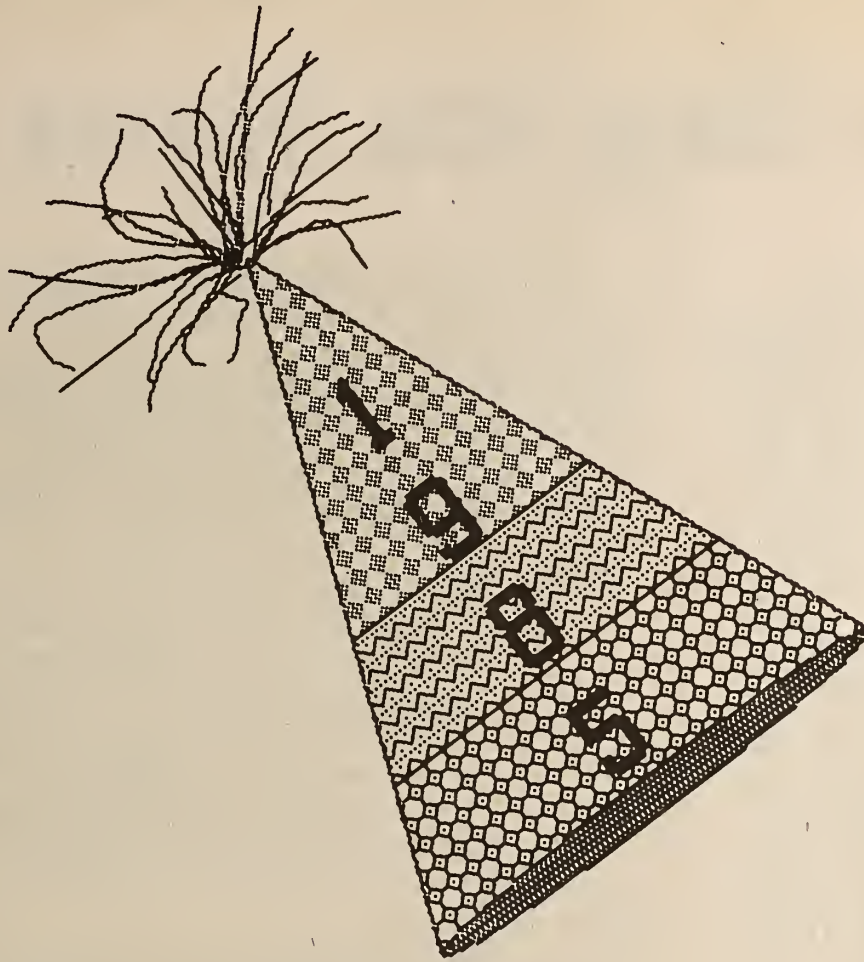
That perhaps is the dilemma facing us. How are we as undergraduates supposed to know what society wants? Perhaps the easiest way is to take an honors program in psychology, anthropology, and philosophy in conjunction with our heavily theoretical scientific courses. Not having 48 hours a day to follow this program, we must seek out alternatives. We can read the papers, they are one of the best weather vanes on society although I except *the Sun* from that role, read the trade journals, especially those that discuss current events, and talk to that curious animal, the ordinary person.

For this reason, a general lack of knowledge on what society wants, we are forced into a probationary period following the receipt of a piece of paper that says that you have learned to second guess your professors. Following this period we must pass an exam dealing with ethics in our chosen profession. What malarky, the ethics of our profession are that of society, only for the past decades we have been forced by our limited knowledge of science to brute-forcing society into accepting less desirable solutions because we knew how to make them work. Even now we are lagging behind the pure scientists by several decades simply due to the reams of information that have been collected.

Now that we are undergraduates it is the time to start taking a serious view at society and its needs. No longer can we assume that society will accept any solution we present. In fact, the current attitude approaches distrust, an attitude that we must change.

Want a challenge?

The Cannon desperately needs staff. I need photographers and writers. If you are interested, drop a note in my mailbox. Or drop into Eng Com the week of the 28th if you are interested in helping with/learning layout.



HAPPY NEW YEAR

FROM the

ENGINEERING
STORES

We're back again bringing you the best
prices on books, calculators, paper,
pens, pencils, templates, and shirts.

Eng Soc News

High School Visits

Have you ever felt nostalgic about the "good old days" of high school? Have you ever felt the urge to visit the place? Then this is your chance to do so. The sign-ups for the high school visits during reading week take place this week and your class rep should have all the required information and sign-up sheets. This is a great opportunity for you to meet some of your old high school teachers and to show some Skule™ spirit during our Centennial, while providing the valuable service of letting high school students (the frosh of the future) know what Skule™ is all about. So, do sign up with your class rep before Monday January 14th and help some high school students make the big decision as to what to do for the rest of their lives.

In conjunction with this, there will be a meeting of the High School Liaison Committee on Monday January 14th at 5pm in the Eng Soc (if you want to make it there, but can't, please leave your name and phone number in the High School Liaison Committee mailbox).

Martin Klík
High School Liaison

Godiva Week Schedule

Okay, now here I am writing this at 2:00am Dec 31, while listening to some joyful death music and enjoying some of my dad's fine wine. I hope this will make some sense, but then again, I don't care because you are a nobody in my life; okay I get on with it.

Here is a list of the events planned for the week, January 14-18, (this is subject to change, but is most likely reliable.)

Monday January 14

- 12:00 Godiva's Resurrection Follow the BNAD through the cafeteria (sorry, we don't supply ear plugs) out to front campus where you will witness Godiva's resurrection.
- 4:00 Movie Night at Suds Watch full length major films while enjoying a cold beer or a glass of wine. (If I could have it my way we'd be watching reruns of "Flipper" while drinking a warm St. Christophers de-alcoholized beer with 0.05% alcohol. MMM—Good Beer!)

Tuesday January 15

- 12:15 Chariot Race Our annual free-for-all brawl on Front Campus. Division Chariots (ie. Mech, Civil, ..., and Frosh) get their chance to be pulled around Front Campus. This is good practice for Football, Rugby, Hockey, or Slam Dancing. For rules or lack thereof consult your Frosh handbook.
- 5:00 Computer Video Games Contest at Suds This is self-explanatory! Championship round will be shown on the Giant Screen. Enter in the Eng Soc by 5:00. Entry Fee \$1.

Wednesday January 16

- 12:00 Winter Baseball Until 2:00pm. Location: Front Campus. Enter by this date, entry fee \$5.
- 5:00 Calculus Race at Suds Whoever can correctly evaluate 4 integrals the fastest will win this contest, but to weed out the pencil neck geeks, a beer must be drunk before each integration, entry fee \$5. Hand it in at the Eng Soc by 12:00 (guaranteed 4 beers.)

Thursday January 17

- 12:00 Winter Baseball Continued until 2:00pm
- 12:30 Briefcase Curling Location T.B.A. If weather permits where will be a curling competition that will use briefcases instead of stones. Sounds insane, right? Well it is!! Enter at the Eng Soc, only \$1 per team of four.
- 5:00 Suds Music, beer, wine, and Versa Foods.
- 5:30 Fast Fluid Flow Lab Location T.B.A. Straight elimination. Either B.Y.O.B. or fluids can be purchased in the lab. Lab

fee is \$2 per lab group of 5. See Eng Soc for lab rules.

Friday January 18

Engineering Ski Day At Blue Mountain. Bus and Tow tickets available at the Eng Soc.

12:00 **Godiva's Burial** Now that you have your ear plugs, follow the BNAD out to Front Campus where Godiva gets buried.

5:00 **Warm-up Pub at Suds** See Thursday

8:00 **Godiva's Wake** At Reznikoff's (U.C. Refectory). Joe E. Skule™ joins forces with Mr. Reznikoff to bring you an evening of fun and merriment. Admission \$2.

All week long, **Godiva's Quest**. A competition for *the whole class* where *the class* can win a free smoker. Every day there will be a new clue for you to find what ever you are looking for. It will be something that is on campus. The entry fee is 25¢ per class member. Only the people registered with the winning team will be granted free admission to the smoker.

That is about it, so come out and enjoy, watch, participate, or you can even help out because I can't run this by myself you know.

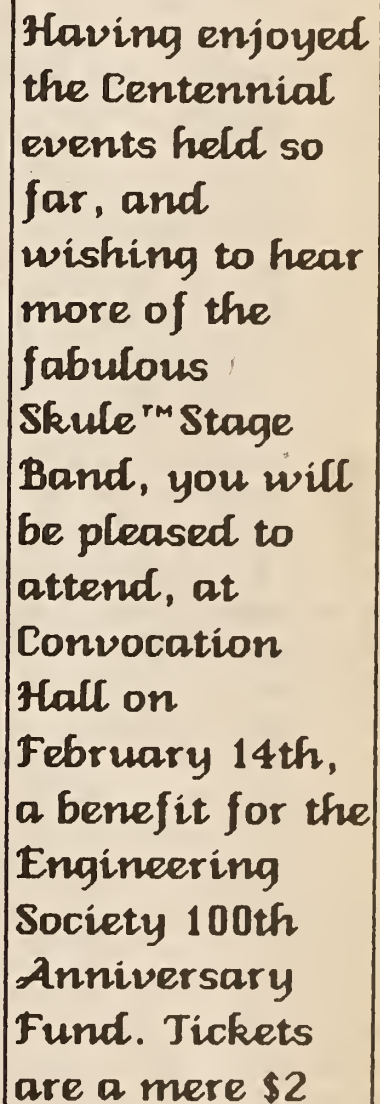
There will be a Blue and Golden organizational meeting, Friday January 11 at 12:00. Helping is just as much fun as participating. If you have any questions please see me or leave a message in my mailbox.

Franco Minatel
Blue and Golden Chairman
(Black Label and St. Christopher's Chairman)

Mt. Ste Anne during Reading Week

Includes everything: highway coach transportation, luxury chalets, 5-day lift ticket AND FOOD!! Sponsored by the Engineering Society. There are 9 spaces left on a first-come, first-serve basis for only \$285.

Reminder to those already signed up that the final instalment, \$125, is due soon. Check the bulletin boards in the cafeteria for details.



Having enjoyed the Centennial events held so far, and wishing to hear more of the fabulous Skule™ Stage Band, you will be pleased to attend, at Convocation Hall on February 14th, a benefit for the Engineering Society 100th Anniversary Fund. Tickets are a mere \$2

Med Sci Ramp

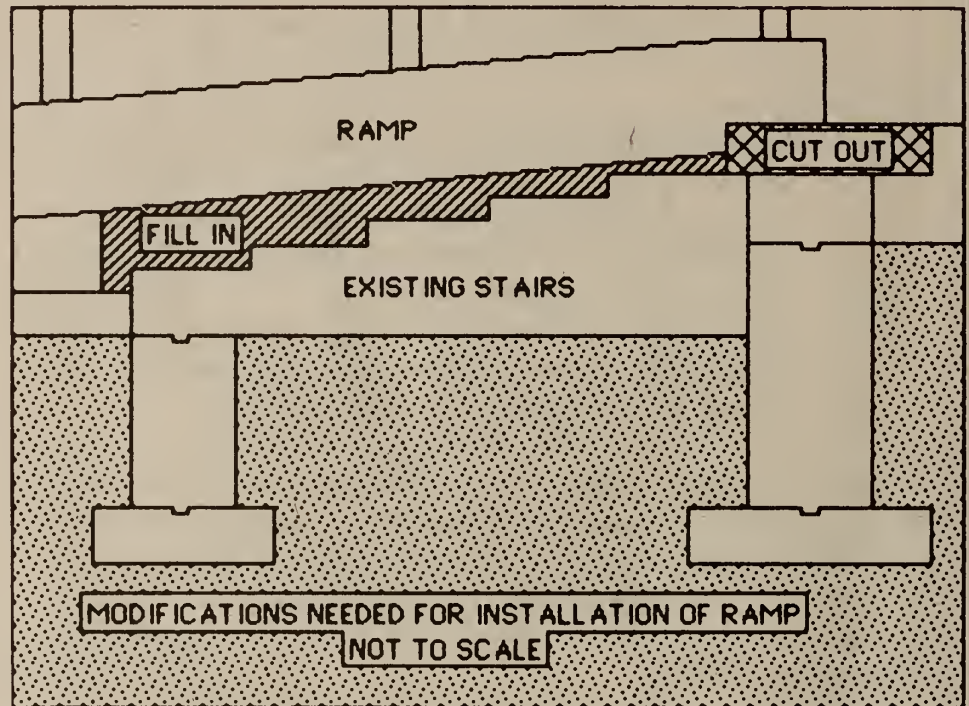
Leslie Peer
Civ 8T5

Bill Hollings
President

At the present, the Medical Sciences Building has only one entrance suitable for physically handicapped people, located near the service entrance at the rear of the building. The accessibility of this building is important because it is one of the most prominent buildings on campus, and it is used by large and widely varying groups of students. As well, the Med Sci Auditorium is used, not only by students, but by a wide variety of public groups. Finally, from a ethical point of view, if any building should be accessible to the handicapped, it should be the Medical Sciences Building.

For the reasons mentioned above, both the *Services to Disabled Persons* and *Access U of T*, have had the Med Sci Building at the top of their list of buildings requiring modifications for the past four years. *Services to Disabled Persons* is the U of T administrative department responsible for the handicapped on campus. *Access U of T* works with this department to raise both funds and awareness within the university community.

In 1982, a company called *Design Access* was approached about the job by *Access U of T*. *Design Access* quoted a \$46,000 price tag on the ramp they would have designed. One of the reasons it was to be so expensive was that it passed, on the north wall of the



building, in front of the fire hydrant pipes which would have had to be relocated. The other big cost involved was the manpower needed for the design and construction of the ramp. The actual materials formed a small part of the cost.

Access has been raising money for the ramp since 1981 and a number of campus groups, including SAC, have held fundraising events to help out. However, because of other ongoing projects, less than \$10,000 has been collected for the Med Sci project to date.

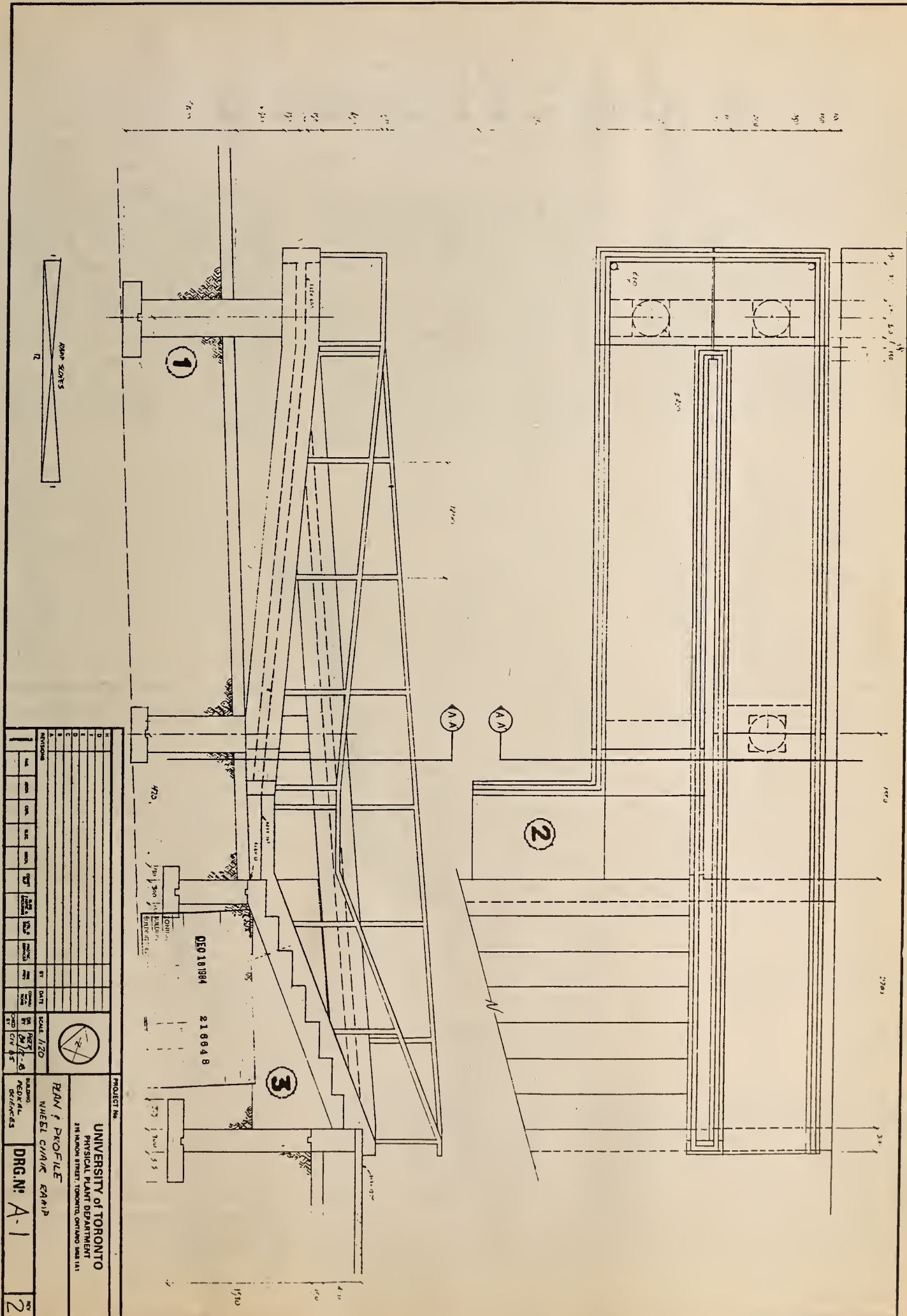
In September, Bill approached *Access* with the idea that the Engineering Society has both the means and the manpower to erect a ramp at a fraction of the price that a professional contractor would charge. Their response was enthusiastic and after some preliminary discussions with Physical Plant, Bill recruited four

fourth year Civils: Leslie Peer, Henri Andre, Dave Carr, and Kevin Chan, who took over the design of the ramp.

Our ramp is to be built of three precast sections supported on column foundations. The fabrication of the precast sections will be tendered to a contractor and the rest we will do ourselves.

The design shown in the drawing has been passed by the Design, Engineering, and Construction Division of Physical Plant and a building permit has been granted by the city. As of Dec 18, the engineers over at Physical Plant are checking over the design calculations for the slab units. They will have to approve the calculations before we can send the slabs out for bidding.

Later this month, we will start working on our part of the construction. We have to dig and pour the four columns down to below frost level 1, and pour the



lower section of the ramp on grade 2 and prepare the existing stairway for having the ramp put over it 3. The first part is the easiest as it only requires round holes and square forms which are fairly easy to work with. The second part requires the construction of form work and placing of reinforcing steel, a bit trickier. For the third part, Physical Plant has asked that we remove the existing precast blocks on the stairs and fill in the space under the ramp so it will look good. We also have to cut into the

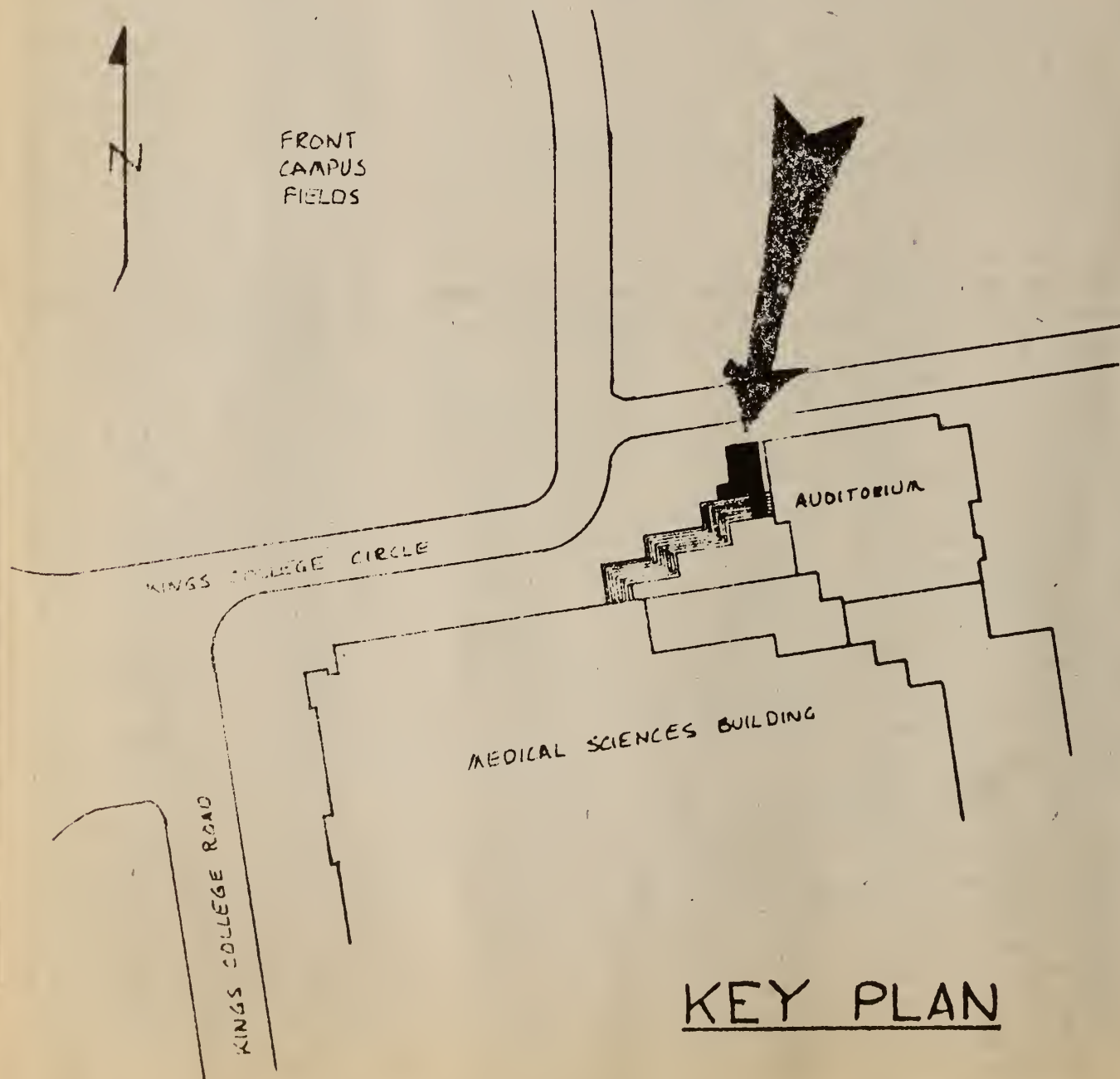
top of the existing retaining wall at this location so that the ramp will have a place to bear at the top end. This will require the most work on our part of the project.

When all the foundations are ready, the precast units will be placed on top and bolted down. Then more merry engineers will have to weld the railing together and set it in place on the ramp.

The reason for this article, aside from entertaining your curiosity about the project, is to invite you out to help build. As beautiful as it may be on paper, we will not have a monument to the philanthropic

spirit of engineering until it is built of beautiful, wear resistant steel and concrete. For this stage we need lots of bodies, warm or cold, to help cut and pour that most beautiful of materials. We will also require a few dedicated souls who are skilled in the art of welding pipes. We can't promise beer and cookies when we're finished, but we can promise that you will have something other than a roll of paper to touch that proves that you are an engineer.

Look in the Eng Soc for the construction timetable and come out to help.



President's Message

As you read this, you will no doubt be in that infamous transient state of being whereby you must not only get down to work, but you must also try to forget how much fun you had during the holidays. Because of print deadlines however, I am forced to write this before I have even had my first taste of Christmas pudding. As a result, I am afraid that this message might lack a bit in length, but I hope that what I will lack in quantity, I will be able to make up for in quality. On the other hand, I might just pad this message out with rubbish like this (Hey, I didn't take effective writing for nothing!).

The Congress of Canadian Engineering Students 1985 Conference is underway at this very moment at the Sheraton Centre. I trust that our delegates will have much to tell us about the other engineering schools across Canada after the conference is through. At this point, I should commend Dave Stubbings and his crew for their efforts in tackling such an immense project. Hosting the annual CCES conference is no piece of cake, and the CCES Committee has been working on this event for the last two years. Thanks guys!!

A little closer to home, next week is Godiva Week. For those of you who don't know what this is, think of the week as a second-term orientation week. Franco and his troupe have been working hard to provide events such as the baseball tournament, chariot races, and a new event: the Calculus Race. Before you settle down to the books

completely, come and participate in some of the events.

The other major event coming up during the next month is the Cannonball on February 2, 1985. Buy your tickets outside the cafeteria from 12 - 2 pm every day or from Ella in the Eng Soc.

If you check out your Skule™ Calendar, you will undoubtedly notice that, as the fall term is the time for football games, the spring term is the time for hockey games. Where the LOMB had their fingers frozen to their instruments outdoors at Varsity Stadium in the fall, they now have their fingers artificially frozen indoors at Varsity Arena while watching the Blues play hockey. (If you are in EE, you will no doubt recognize the concept of duality here). The next game is this Friday, and I hope to see a few of you out to help the LOMB in their cheering. After all they are the only official band the Blues have to cheer them on.

Does the number 216648 mean anything to you? Before you go running off to look for last month's *Wintario* ticket, I'll tell you. It's the number on the building permit we have obtained for the Medical Sciences Building wheelchair ramp. All seems to be moving ahead as planned, and we hope to start construction on it near the

end of this month. If you have not already signed up to work, there are still a few spaces left. The list is on the Eng Soc door. If you want to see the plans for the ramp, come down to the Eng Soc; they should be posted on the wall. For a full report on the design and details of the ramp, look elsewhere in this issue.

Finally, I want to thank everybody for their generosity during our Ethiopia Aid campaign at the end of the last term. In one week, Engineering raised over \$900, by far the most money of any campus group, and SAC has gone out of its way to thank us. As a matter of interest, we did keep track of the class donations and the top classes were: Chem 3, Chem 2 and the Eng Sci Flrosh. These are raw numbers, and I apologize for not figuring out a per-capita number, but time was so short. Time constraints also did not enable us to get to all the classes, and I should apologize for that as well. Thanks to everybody for their help!

Scite et Strenue,
Skillfully and Vigourously,

Bill Hollings
President



E.A.A.

Betty Dolinar
E.A.A. Publicity Director

With the Christmas Season and New Year festivities at an end we're all feeling a little heavier after two blissful weeks of food and drink. It's time to start thinking light. How, you ask? Why not hit the slopes of Blue Mountain on Ski Day. This year's ski day will be held Friday January 18. Tickets are available from Ella until January 14 at the cost of \$9.00. Rentals are issued at \$7.50, and transportation costs are \$12.50 (we chose a coach over a school bus). The bus(es) will leave the school at 7am and will return by 7pm. Tryouts for the Men's and Women's Engineering Ski Teams will be held that day. For additional information call Fred Pulver (592-9299).

Men's Athletics

Men's basketball, hockey and volleyball seasons have already resumed. Anyone interested in playing waterpolo can attend the preseason games. Check the schedules for times. All swimmers are invited to participate in the Men's Swim Meet to be held on Monday January 21. Check the E.A.A. Bulletin Board for a sign-up list.

Women's Athletics

The Women's swim meet will be held on Wednesday January 23. The Women's Squash and Volleyball Commissioners welcome anyone interested in playing for the Squash Teams, the Squashineers and the Skule™

Spirits, and the Div III Volleyball Team. Look for the squash sign-up list in the SF basement washroom.

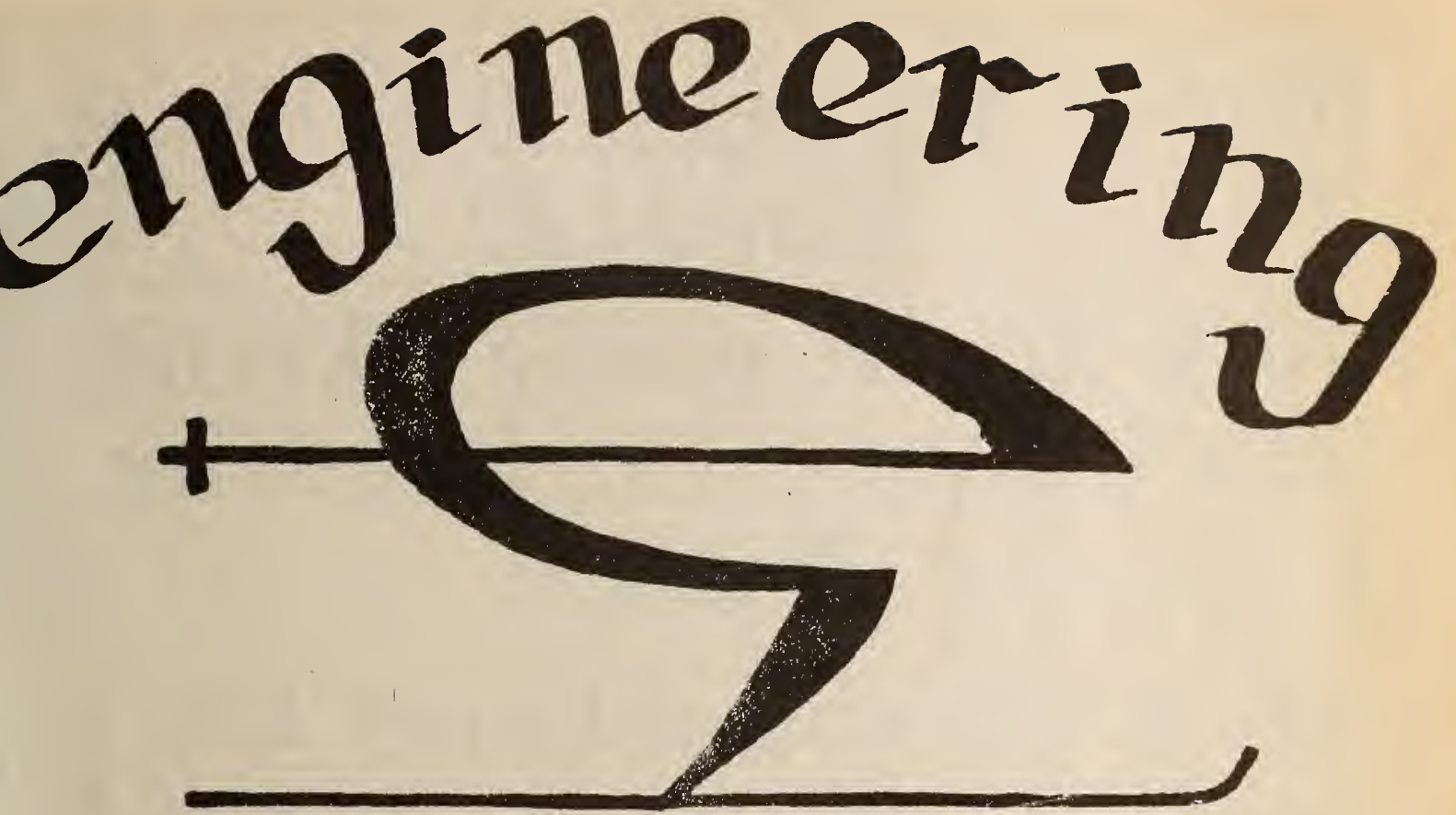
Note that many of the sports are halfway through their seasons and

that the time to start accumulating S-points for this year is now. Stop procrastinating and start participating. The S-Dance is only three months away.



Athlete of the Month

Glyn Jones was voted Athlete of the Month for December. A grad student, Glyn has been a member of the Rugby Team for five years and was chosen one of the MVP's for the first place Engineering Rugby Team this year.



SKI DAY

January 18, 1985

*at BLUE MOUNTAIN - GEORGIAN
PEAKS*

Tow Ticket: \$9

Bus Ticket: \$12.50

Both tickets will be available at the Eng. Soc. , Jan. 7-14

The bus will be a fully equipped Highway Coach

Rental Packages will be available at the hill for \$7.50

For more information, call Fred Pulver at 592-9299

Would you like a trip to
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Hotel?

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Skule™
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the Grad Ball.

Employment Tips

Due to the efforts of Paul Gooderham (Eng Soc Employment Chairman) and with the cooperation of Jack Gorrie (Manager of ECF) and the Engineering Society, the Career Counselling and Placement Centre can now transmit job notices to the VAX's. By accessing 'Noticeboard' on your terminals, you will be able to find out the companies that we are currently listing, disciplines sought and the application deadline date. You will, however, still have to visit our office to read the job descriptions.

On February 27, 1985, the Career Counselling and Placement Centre is sponsoring a summer job fair, which will be held at University College East and West Halls. The Fair will start at 10:00am and go to 3:00pm. To date, approximately 40 companies have indicated an interest in participating. Companies that have expressed a particular interest in hiring engineers for summer employment are: Dow Chemical, Canada Wire and Cable, Ontario Hydro and Cannon Machinery Sales.

During the day, you will be given the opportunity to meet with employers, to obtain company literature, to discuss summer job openings, complete application forms and arrange for interviews at a later date.

THE SUMMER JOB FAIR should make your search for a summer job much easier. BE SURE TO ATTEND!

Seminars on 'How to look for a Summer Job' will be held at the Career Counselling and Placement Centre. These seminars will cover the basics of effective job searching, preparing a resumé and covering letter, and how to prepare for an interview. Relevant government hiring programmes will also be covered. January dates for these seminars are: January 15 from 10-11am and January 29 from 10-11am.

To prepare for your job search, the first step is to develop a resumé. This is easily done by adapting your UCPA application form to an appropriate resumé format. To decide on the best format for your resumé, samples are on file in our Career Resource

Library, or you can purchase a booklet on resumé writing for 50¢ from the Career Counselling and Placement Centre. (Booklets concerning all aspects of a Job Search are also available.) Once you have a draft of your resumé, a career counsellor can review it with you, to ensure that the presentation and content are to your best advantage. Appointments for resumé checks can be made in Room 416.

In January, you might want to take advantage of a special group designed for participants of the On-Campus Recruitment Programme. This group, Job Search and the On-Campus Recruitment programme will teach you basic job search skills that you can effect, while continuing to participate in the On-Campus Programme. In a two hour session, we will discuss resumé writing, how to uncover the hidden job market, methods of application, and interview techniques. Dates and times of the group will be posted in early January, and you can register at the On-Campus desk for a session that is convenient for you.

On-Campus Recruitment Programme. Permanent

Cabot Canada Ltd., Carbon Division	January 7
Kurt Salmon Association	14
Square D Canada	14
Spar Aerospace: Defence Systems Division	14
Remote Manipulator Systems	28
Communications Engineering	28
Schlumberger International	28
Fairchild Camera and Instruments	February 4
Motorola: Design: Custom Products	11
Systems Engineering	11

On-Campus Recruitment Programme. Summer

Communications Engineering	February 11
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Summer Listing Service

Atomic Energy, Pinawa, Manitoba	January 31
IAESTE (International Association for the Exchange of Students with Technical Experience)	11
Department of National Defence	Apply now

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will be

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BLUE WITH A TWIST.

A new shape of Blue. A new twist-off cap, making your Blue easier to get to. Keep on smiling.

open all Godiva Week!

Hours: 4-6 Monday to Thursday

4-8 Friday